

REMARKSAllowable Subject Matter

In the Office Action at paper number 10, paragraph 8, the Office Action states that Claims 5 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The Office Action further asserts that none of the prior art suggests or discloses an article comprising diamond deposited on a non-metallic framework material substrate having a porosity sufficient to permit the flow of fluids in at least one direction through the material wherein the diamond is fully coalesced. The Examiner is thanked for the allowance of the subject matter of claims 5 and 10.

Claim 28 has been amended to further particularly point out and distinctly claim subject matter regarded as the invention.

Claims 5 and 10 have been cancelled, without prejudice.

New claims 29 and 30 also particularly point out and distinctly claim subject matter regarded as the invention. Specifically, claim 29 includes the allowable subject matter of claim 5 and the base claim 1. Claim 30 includes the allowable subject matter of claim 10 and the base claim 6.

The amendments here presented are made for the purposes of better defining the invention, rather than to overcome the rejections for patentability. Support for the amendments herein presented can be found in the specification and claims as filed. No new matter has been introduced as a result of the amendments. Reconsideration and allowance is respectfully requested in view of the amendments and the following remarks.

The 35 U.S.C. § 102 Rejection

Claims 1-3, 6-8 and 28 stand rejected under 35 U.S.C. § 102(b) as being allegedly anticipated by Jury et al. (U.S. Patent No. 3,918,220). This rejection is respectfully traversed.

In the Office Action at paper number 10, paragraph 4, the Office Action asserts that Jury teaches a pad formed from a reticulated synthetic plastic foam having a plurality of the interstices therein in which the diamond particles are embedded (column 3, lines 48-50, column 4, lines 20-30, Figure 1). The Office Action also asserts that Jury teaches the interstices that are not occupied by diamond intercommunicate to define a continuous throughway extending between the rubbing surface of the pad and a face thereof remote from the rubbing surface, thereby to define a path through which the washing liquid can flow to or from the rubbing surface (abstract). The Office Action further asserts with regard to claim 6, Figure 1 shows that the plastic foam having an open-cell structure. The Office Action also asserts with regard to claims 3, 8 and 28, that Jury also discloses the plastic foam being coated through out the wall surfaces defining the interstices in the foam with a metal such as nickel, copper or lead (column 3, lines 48-58). It is the examiner's position that Jury anticipates the claimed subject matter. Applicant respectfully disagrees with the assertions in the Office Action.

The Jury et al. reference discloses a method of grinding the surface of a workpiece with abrasive particles and a tool for carrying out the method. The tool essentially comprises a pad of reticulated foam-like material having a multiplicity of randomly disposed interstices therein in which particles of abrasions are embedded. Such a foam-like material is called "metal-foam." Metal-foam is made from a reticulated synthetic plastics foam which is coated throughout the wall surfaces defining the interstices in the foam with metal. The plastics foam may be left within the metal coating or it may be destroyed to leave the metallic coating as a skeletal structure. The metallic coating may be of any metal to which the abrasive particles, which are embedded in the interstices of the foam-like material, can be bonded. Nickel, copper and lead are examples. The interstices of the foam metal are impregnated with and contain the abrasive particles. The abrasive particles may be of diamond. The pads of pre-made foam metal are impregnated with abrasive particles. The abrasive particles are bonded in the interstices of the foam-like material. The abrasive particles may be plated to the metallic coating of the foam-like material. (See Jury et al. at column 3, lines 41-59 and column 4, lines 19-25, column 6, lines 30-33).

To anticipate a claim under 35 U.S.C. § 102, a single source must contain all of the elements of the claim. *Lewmar Marine Inc. v. Barient, Inc.*, 827 F.2d 744, 747, 3 U.S.P.Q.2d 1766, 1768 (Fed. Cir. 1987), cert. denied, 484 U.S. 1007 (1988). Moreover, the single source must disclose all of the claimed elements “arranged as in the claim.” *Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 716, 223 U.S.P.Q. 1264, 1271 (Fed. Cir. 1984).

The Jury et al. reference fails to anticipate the claimed invention. The Jury et al. reference fails to disclose each and every claimed element. The claimed invention claims in part an article comprising diamond deposited on a non-metallic framework material substrate, at claim 1. The claimed invention claims, in part, an article comprising diamond deposited on a non-metallic open-cell foam substrate, at claim 6.

In total contrast, the Jury et al. reference discloses the opposite structure. The Jury et al. reference discloses a metal-foam. The Jury et al. reference discloses a metal-foam made from a reticulated synthetic plastics foam which is coated throughout the wall surfaces defining the interstices in the foam with metal. The abrasive particles are plated or bonded to the metallic coating of the metal-foam. Although the metal-foam may include an internal plastic material, the plastic foam is left within the metal coating. The plastic material is destroyed leaving the metallic skeleton behind in some embodiments. In any embodiment, the abrasive particles are coated to the surfaces of the metallic coating and not to the plastic material.

Therefore, the Jury et al. reference does not disclose each and every claimed element.

Since the prior art reference fails to disclose each and every claimed element, then the prior art reference fails to anticipate the claimed invention. In view of the foregoing, it is respectfully requested that the rejection be withdrawn and it is respectfully asserted that the claims are now in condition for allowance.

The 35 U.S.C. § 103 Rejection

Claims 4 and 9 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Jury et al. (U.S. Patent No. 3,918,220). This rejection is respectfully traversed.

In the Office Action at paper number 10, paragraph 6, the Office Action admits that the Jury et al. reference is silent as to a thickness of the diamond. The Office Action also asserts that the skilled artisan must rely on his own knowledge. The Office Action further asserts that it would be obvious to one of ordinary skill in the art to employ as little of the diamond as possible in order to reduce cost. The Office Action also asserts that it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the diamond with the thickness instantly claimed since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involved only routine skill in the art. (The Examiner quotes in re Aller, 105 USPQ 233.) Applicant respectfully disagrees with the assertions in the Office Action.

Applicant agrees that the Jury et al. reference fails to teach or suggest the claimed thickness of the diamond deposited on the non-metallic framework and the diamond deposited on the non-metallic open-cell foam substrate.

The Office Action has misapplied the case law with respect to optimum or workable ranges and routine experimentation. Only result-effective variables can be optimized. A particular parameter first must be recognized as a result-effective variable, i.e. a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation. *In re Antonie*, 195 USPQ 6 (CCPA 1977).

The Office Action has not provided any prior art references, nor an Affidavit in support of the assertions and has merely given opinion as to optimum or workable ranges. The case law requires that a particular parameter must first be recognized as a result-effective variable. This has not been done. Thus, the naked assertion in the Office Action has failed to meet the routine experimentation requirements. Therefore, the

routine experimentation holding is not applicable until such evidence supporting the assertion is provided.

Since the routine experimentation rejection is not applicable, there is no teaching or suggestion of a diamond thickness of at least about 2 microns. Since there is no teaching or suggestion, there is no *prima facie* case of obviousness.

In view of the foregoing, it is respectfully requested that the rejection be withdrawn and it is respectfully asserted that the claims are now in condition for allowance.

Claim 11 stands rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Jury et al. (U.S. Patent No. 3,918,220) as applied to claim 6 above, further in view of Kasprzyk et al. (U.S. Patent No. 4,559,244). This rejection is respectfully traversed.

In the Office Action at paper number 10, paragraph 7, the Office Action admits that Jury does not specially disclose the porosity of the reticulated plastic foam. The Office Action further asserts that it is necessary and thus obvious for the skilled artisan to look to the prior art for a suitable porosity of the reticulated plastic foam. The Office Action also asserts that Kasprzyk teaches a commercially available reticulated polyurethane foam having a porosity of 100 pores per inch (column 3, lines 41-42), meeting the claimed range. The Office Action further asserts that in an absence of unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a reticulated polyurethane foam having a porosity within the range instantly claimed, motivated by the desire to successfully practice the invention of Jury. The Office Action also asserts that the reticulated polyurethane foam having such a porosity has been widely used in the prior art because of its commercial availability, thus further suggesting the modification. Applicant respectfully disagrees with the assertion of the Office Action.

Even assuming that all elements of an invention are disclosed in the prior art, an Examiner cannot establish obviousness by locating references that describe various aspects of a patent applicant's invention without also providing evidence of the

motivating force which would have impelled one skilled in the art to do what the patent applicant has done. *Ex parte Levensgood*, 28 USPQ 1300 (Bd. Pat. App. Int. 1993). The references when viewed by themselves and not in retrospect, must suggest the invention. *In re Skoll*, 187 USPQ 481 (C.C.P.A. 1975).

The Office Action has not provided any evidence that would suggest to one skilled in the art to include a specific porosity in the foam. The Jury et al. reference, when viewed alone does not teach or suggest a porosity size as claimed. The Kasprzyk et al. reference does not teach or suggest a metal-foam. Merely because an element is absent in the primary prior art reference (Jury et al.) is not motivation or suggestion to look to other prior art to fill in the missing elements for an obviousness rejection. The prior art references must suggest the invention. The Jury et al. reference in combination with the Kasprzyk et al. reference does not teach or suggest a combination based on a porosity, thus there is no motivation or suggestion to combine. Since there is no motivation to combine the references, there is no *prima facie* case of obviousness.

Dependent Claims

The argument and evidence set forth above is equally applicable here. Since the independent Claims 1 and 6 are allowable, then the dependent Claims 2-4 and 7-9 and 11 must also be allowable. If an independent claim is nonobvious under 35 U.S.C. § 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q. 2d 1596 (Fed. Cir. 1988).

In view of the foregoing, it is respectfully requested that the rejection be withdrawn and it is respectfully asserted that the claims are now in condition for allowance.

The newly presented claims are patentably distinct over the cited prior art. Therefore the new claims are allowable.


Request for Allowance

It is believed that this Amendment places the above-identified patent application into condition for allowance. Early favorable consideration of this Amendment is earnestly solicited.

If, in the opinion of the Examiner, an interview would expedite the prosecution of this application, the Examiner is invited to call the undersigned attorney at the number indicated below. Entry of this Amendment places the Application in condition for allowance. Accordingly, entry of this Amendment is appropriate and is respectfully requested.

Respectfully submitted,
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